pa1106: Factoring with box when $a =$ prime (v6)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18, until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	−6
2x	$2x^2$	−12x
3	3x	−18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 17x + 20$.

*	x	4
3x	$3x^2$	12x
5	5x	20

ANSWER: $(3x + 5)(x + 4)$

Question 2

Use the box to factor $5x^2 + 12x - 9$.

*	x	3
5x	$5x^2$	15x
− 3	− 3x	− 9

ANSWER: $(5x - 3)(x + 3)$

Question 3

Use the box to factor $7x^2 - 52x + 21$.

*	x	− 7
7x	$7x^2$	− 49x
− 3	− 3x	21

ANSWER: $(7x - 3)(x - 7)$